

## **REMARKS / ARGUMENTS**

### **I. General Remarks and Disposition of the Claims**

Please consider the application in view of the following remarks. Applicants thank the Examiner for his careful consideration of this application.

Claims 1-3, 8-11, 13-31, 35-41, and 43-65 are pending in this application. Claims 1-3, 8-11, 13-31, 35-41, 43-65 are rejected. Applicants respectfully request reconsideration in light of the remarks contained herein.

### **II. Remarks Regarding Rejections Under 35 U.S.C. § 103**

#### **A. Claims 1-3, 8-11, 13-25, 31, 35-41, 43-54, and 57-65**

Claims 1-3, 8-11, 13-25, 31, 35-41, 43-54, and 57-65 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U. S. Patent No. 6,006,838 to Whiteley *et al.* (hereinafter "*Whiteley*") in view of WO 03/048508 by Akinlade *et al.* (hereinafter "*Akinlade*"). With respect to this rejection, the Final Office Action states:

With regard to claims 1-3, 9, 11, 14, 16-18, 21-25, 31, 35-37, 39, 41, 44-47, 50-54, 57, and 61, Whiteley discloses a method of "selectively stimulating multiple production zones or intervals within a subterranean oil or gas well in a single trip" (column 2, lines 47-48). Whiteley further teaches that his apparatus can be interconnected with a drill string (column 3, lines 14-18). The stimulating step comprises jetting a stimulation fluid through ports, or nozzles (24) at a pressure sufficient to create a cavity in the section of the subterranean formation (see column 4, lines 44-47 and figure 3). Whiteley also teaches shutting the annulus between the drill string and the wellbore wall using a packer (3). The ports (24) are opened by a sliding sleeve (22).

*Examiner notes that Whiteley explicitly discloses matrix acidizing as the stimulation method, and does not explicitly disclose fracturing, though they both fall within the definition of "stimulation" methods, according to the Schlumberger Oilfield Glossary (citation attached to this office action). Examiner points out that "acid fracturing" is a variation of matrix acidizing that simply takes place above the formation fracture pressure, according to paragraph 0004 of Saini et al. (US 2008/0035341). Therefore, though Whiteley mentions only matrix acidizing, it would have been considered obvious that Whiteley's device was also capable of acid fracturing, simply depending on the pressure at which the acid was injected into the formation, and furthermore because matrix acidizing and acid fracturing are simply obvious variations of stimulation techniques.*

While Whiteley discloses the use of his system with drillpipe, Whiteley fails to explicitly disclose the use of his system during a rotary drilling application in conjunction with a drill bit.

Akinlade discloses "a method of injecting a stream of treatment fluid into an earth formation in the course of drilling a borehole into the earth formation" (see abstract). However, Akinlade's system is not used for *stimulating* a wellbore, rather it is for *sealing* a wellbore. That said, Akinlade does teach a method of injecting fluid into a formation during a drilling operation.

All of the component parts of the method are known, i.e. stimulating a formation using a stimulation tool interconnected with a drill string, and injecting treatment fluid during a rotary drilling operation. What is not shown is stimulating a formation during a rotary drilling operation.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have combined the methods of Whiteley and Akinlade so that the formation could be stimulated during a rotary drilling operation without tripping out of the borehole, since there appears to be nothing precluding the apparatus of Whiteley from being used in conjunction with the drill bit shown by Akinlade.

With regard to claims 8, 10, 19, 20, 38, 40, 48, 49, 58-60, and 62-65, a "second fluid" could comprise drilling fluid, which could contain many different types of additives to enhance the stimulation of the formation and clean the formation. Furthermore, the drilling fluid could be pumped at a pressure sufficient to enlarge the cavity formed by the initial fluid injection.

With regard to claim 13, 15, and 43, Whiteley in view of Akinlade fails to disclose the stimulation fluid being an unweighted drilling fluid, nor does Whiteley in view of Akinlade disclose the stimulation fluid being a relative permeability modifier.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have used, in conjunction with Whiteley's device, a stimulating fluid with a chemistry similar to that of drilling fluid, said fluid being an unweighted drilling fluid or a relative permeability modifier, as the examiner hereby takes official notice that it was notoriously conventional in the art to have used drilling fluids with a multitude of additives to both stimulate formations as well as prevent drilling fluid loss into formations.

(Final Office Action at 2-5.) In response to Applicants arguments filed on February 5, 2008, the Final Office Action states:

Applicant's arguments filed February 5, 2008 have been fully considered but they are not persuasive. Applicant has argued that Whiteley does not teach fracturing, and that Akinlade does not make up for that lack of a teaching, because Akinlade teaches sealing a formation, not fracturing or stimulating a formation.

Examiner respectfully traverses applicant's arguments. With respect to the Whiteley references, as discussed above, Whiteley teaches matrix acidizing, which is simply a type of stimulation method where the acid is injected at a pressure below formation fracture pressure. In acid fracturing, another stimulation method, the acid is injected at a pressure above the formation pressure. Therefore, simply increasing the injection pressure in the method of Whiteley would make the formation fracture. In fact, using the method of Whiteley, one could easily fracture the formation unintentionally if the fracture pressure of the formation was unknown or overestimated. In sum, the fact that Whiteley does not explicitly teach fracturing would not lead one of ordinary skill in the art to believe that his device was not capable of fracturing.

With respect to the Akinlade reference, examiner has brought in the Akinlade reference merely for its teaching of injecting a fluid during a drilling operation. The fact that the injected fluid is a sealing fluid is immaterial. The Whiteley reference provides the teaching of stimulating the wellbore with a stimulation tool interconnected with drill pipe. The Akinlade reference provides the teaching of a fluid injection tool interconnected with a drill string and drill bit, that is capable of injecting fluid at multiple zones in a wellbore during a drilling operation.

(Final Office Action at 7.) Applicants respectfully disagree with these rejections.

In order for a reference or combination of references to form the basis for a rejection under § 103(a), a *prima facie* case of obviousness must be established. Obviousness is determined by construing the scope of the prior art, identifying the differences between the claims and the prior art, determining the level of skill in the pertinent art at the time of the invention, and considering objective evidence present in the application indicating obviousness or nonobviousness. *Graham v. John Deere*, 383 U.S. 1, 17 (1966). Applicants respectfully submit that due to the differences between the claims and the cited references the Examiner has not established a *prima facie* case of obviousness, in that the combination of *Whiteley* and *Akinlade* does not teach each and every recitation of the present claims. In addition, Applicants respectfully assert that the Examiner has not established a *prima facie* case of obviousness

because the Examiner's modification of *Whiteley* is improper and because *Akinlade* teaches away from the proposed combination with *Whiteley*.

**1. The Cited References Do Not Teach the Fracturing Limitation of Claims 1, 31, and 57.**

In particular, neither *Whiteley* nor *Akinlade* teach or suggest "fracturing a section of the subterranean formation," as recited in claims 1 and 57 or "fracturing multiple sections of the subterranean formation," as recited in claim 31. In contrast, *Whiteley* is directed to the matrix acidizing of producing zones. *Whiteley*, col. 1, lines 6-13. Specifically, *Whiteley* describes an assembly that "is especially suited to perform a combination of matrix acidizing jobs and near wellbore erosion jobs." *Whiteley*, however, fails to disclose, teach, or suggest a method for fracturing a section or multiple sections of a subterranean formation. Moreover, *Akinlade* fails to obviate the deficiencies of *Whiteley*. Rather, the Examiner merely relied on the secondary reference for its alleged teaching of injecting a fluid into a formation during a drilling operation. (See Final Office Action at 4.)

Accordingly, the combination of *Whiteley* and *Akinlade* fails to teach or suggest each and every limitation of independent claims 1, 31, and 57. Therefore, Applicants respectfully assert that independent claims 1, 31, and 57, and their dependent claims, are not rendered obvious by the combination of *Whiteley* and *Akinlade*.

**2. The Examiner's Modification of *Whiteley* Is Improper.**

However, the Examiner is apparently modifying *Whiteley* in order to teach the limitation of "fracturing a section of the subterranean formation" or "fracturing multiple sections of the subterranean formations," as recited in the independent claims. Applicants respectfully submit that this modification is improper, in that the Examiner has not articulated reasoning with rational underpinnings sufficient to support this modification of *Whiteley*. *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). "A rationale to support a conclusion that a claim would have been obvious is that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art." MPEP § 2143.02 (citations omitted). The Examiner has not established a sufficient rationale to support the conclusion that these claims are obvious because the Examiner's modification of the device in *Whiteley* would change the

respective function of that device. As mentioned above, the device in *Whiteley* is used to perform a combination of matrix acidizing jobs and near wellbore erosion jobs. The Examiner's modification to use this device for acid fracturing operations would alter the function of this device, as the Examiner's modification requires the device to fracture the formation instead of merely acidizing it. For support of this modification, the Examiner relies on a conclusory statement that matrix acidizing and acid fracturing are simply obvious variations of stimulation techniques. Applicants respectfully disagree. As set forth by the Federal Circuit, obviousness rejections cannot be sustained with mere conclusory statements. *In re Kahn*, 441 F.3d at 988. Although the Examiner is correct that acid fracturing operations take place above the fracture pressure of the subterranean formation and matrix acidizing operations take place below the fracture pressure of the subterranean formation, this statement only demonstrates that these stimulation techniques are different techniques and does not demonstrate that these techniques are simply obvious variations of stimulation techniques. Thus, Applicants respectfully submit that the Examiner has improperly relied on the conclusory and subjective statement that matrix acidizing and acid fracturing are simply obvious variations of stimulation techniques. Furthermore, even if matrix acidizing and acid fracturing were simply obvious variations of stimulation techniques, the Examiner's modification of the device of *Whiteley* would still change the respective function of that device, and thus this combination is improper.

Still further, there is no indication in *Whiteley* that the device can even be used at pressures above the fracture pressure of the formation or that acid fracturing jobs can be performed using the device. Rather, the Examiner alleges without any support that using the method of *Whiteley*, one could easily fracture the formation unintentionally if the fracture pressure of the formation was unknown or overestimated. (See Final Office Action at 7.) This conclusory allegation is insufficient to demonstrate that this modification of *Whiteley* would have been obvious or even possible. Thus, Applicants respectfully submit that the Examiner has not even demonstrated that this improper modification of the device in *Whiteley* is even possible.

**3. *Akinlade* Teaches Away from a Combination with *Whiteley*.**

In addition, Applicants respectfully submit that the combination of *Akinlade*, which is directed to sealing a subterranean formation, with *Whiteley*, which is directed to matrix acidizing, would fail to obviate these claims, because such a combination would be improper. In determining whether a combination is proper, "[a] prior art reference must be considered in its

entirety, *i.e.* as a whole, including portions that would lead away from the claimed invention.” MPEP § 2141.02.VI. As the Examiner states, “Akinlade’s system is not used for *stimulating* a wellbore, rather it is for *sealing* a wellbore.” (Final Office Action at 3-4.) Although the Examiner argues that the fact that the injected fluid is a sealing fluid is immaterial because the *Akinlade* reference is merely being used for its teaching of injecting a fluid during a drilling operation, Applicants disagree. In using the teaching of *Akinlade* of injecting a fluid during a drilling operation without giving consideration to what type of fluid is being injected, the Examiner is not considering the prior art reference as a whole. *Akinlade* teaches away from stimulating a wellbore during a drilling operation. In particular, *Akinlade* teaches that shutting off fractures during drilling operations is highly desirable and that fractures may lead to a multitude of problems during drilling operations. *See Akinlade*, page 1. *Akinlade* also teaches that similar problems are encountered when drilling through highly permeable zones. *See Akinlade*, page 1. A person of ordinary skill in the art, when considering *Akinlade* as a whole, would understand that *Akinlade* teaches away from stimulating a subterranean formation during a drilling operation. Thus, it is improper for the examiner to rely on the teaching of *Akinlade* of injecting a fluid during a drilling operation without considering the fact that *Akinlade* only teaches injecting a sealing fluid. As such, it would be improper to combine *Akinlade* with *Whiteley*, which is directed to the matrix acidizing of a producing zone, because *Akinlade* teaches away from stimulating a subterranean formation during a drilling operation.

**4. The Rejection Over *Whiteley* and *Akinlade* Should Be Withdrawn.**

For at least the foregoing reasons, Applicants respectfully assert that independent claims 1, 31, and 57, and their dependent claims, are not rendered obvious by the combination of *Whiteley* and *Akinlade*. Thus, Applicants respectfully request withdrawal of this rejection with respect to claims 1-3, 8-11, 13-25, 31, 35-41, 43-54, and 57-65.

**B. Claims 26, 27, 30, 55, and 56**

Claims 26, 27, 30, 55, and 56 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Whiteley* in view of *Akinlade* and in further view of U.S. Patent No. 5,111,881 issued to Soliman *et al.* (hereinafter “*Soliman*”). As discussed in Section II (A) above, *Whiteley* in view of *Akinlade* does not teach or suggest “fracturing a section of the subterranean formation” or “fracturing multiple sections of the subterranean formation,” as recited in independent claims 1 and 31. Nor does the combination of *Whiteley* and *Akinlade* with *Soliman*

teach this element. Rather, the Examiner merely relies on *Soliman* for its alleged teaching of sealing a treated subterranean formation. (Final Office Action at 5.) Applicants therefore respectfully assert the combination of *Whiteley*, *Akinlade*, and *Soliman* does not teach, suggest, or otherwise disclose all elements of claims 1 and 31 and thus these claims are allowable over *Whiteley*, *Akinlade*, and *Soliman*. Since claims 26, 27, 30, 55, and 56 depend, either directly or indirectly, from claim 1 or 31, these dependent claims also incorporate these limitations that none of the references teach or suggest, and are thus similarly allowable. See 35 U.S.C. § 112 ¶ 4 (2004).

**C. Claims 26-29, 55, and 56**

Claims 26-29, 55, and 56 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Whiteley* in view of *Akinlade* in further view of U.S. Reissued Patent No. 27,459 issued to Guinn *et al.* (hereinafter "*Guinn*"). As discussed in Section II (A) above, *Whiteley* in view of *Akinlade* does not teach or suggest "fracturing a section of the subterranean formation" or "fracturing multiple sections of the subterranean formation," as recited in independent claims 1 and 31. Nor does the combination of *Whiteley* and *Akinlade* with *Guinn* teach this element. Rather, the Examiner merely relies on *Guinn* for its alleged teaching of sealing a treated subterranean formation. (Final Office Action at 6.) Applicants therefore respectfully assert the combination of *Whiteley*, *Akinlade*, and *Guinn* does not teach, suggest, or otherwise disclose all elements of claims 1 and 31 and thus these claims are allowable over *Whiteley*, *Akinlade*, and *Guinn*. Since claims 26-29, 55, and 56 depend, either directly or indirectly, from claim 1 or 31, these dependent claims also incorporate these limitations that none of the references teach or suggest, and are thus similarly allowable. See 35 U.S.C. § 112 ¶ 4 (2004).

**D. Claims 66 and 67**

Claims 66 and 67 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Whiteley* in view of *Akinlade* in further view of U.S. Patent Publication No. 2003/0083403 by Dawson *et al.* (hereinafter "*Dawson*"). As discussed in Section II (A) above, *Whiteley* in view of *Akinlade* does not teach or suggest "fracturing a section of the subterranean formation" or "fracturing multiple sections of the subterranean formation," as recited in independent claims 1 and 31. Nor does the combination of *Whiteley* and *Akinlade* with *Dawson* teach this element. Rather, the Examiner merely relies on *Dawson* for its alleged teaching of injecting an additive

fluid simultaneously with a fracturing fluid. (Final Office Action at 6.) Applicants therefore respectfully assert the combination of *Whiteley*, *Akinlade*, and *Dawson* does not teach, suggest, or otherwise disclose all elements of claims 1 and 31 and thus these claims are allowable over *Whiteley*, *Akinlade*, and *Dawson*. Since claims 66 and 67 depend, either directly or indirectly, from claim 1 or 31, these dependent claims also incorporate these limitations that none of the references teach or suggest, and are thus similarly allowable. *See* 35 U.S.C. § 112 ¶ 4 (2004).

### III. No Waiver

All of Applicants' arguments and amendments are without prejudice or disclaimer. Additionally, Applicants have merely discussed example distinctions from the cited references. Other distinctions may exist, and Applicants reserve the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner's additional statements, such as, for example, any statements relating to what would be obvious to a person of ordinary skill in the art.

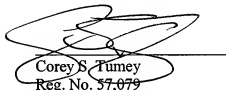


**SUMMARY**

In light of the above amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections. Applicants further submit that the application is now in condition for allowance, and earnestly solicit timely notice of the same. Because this response has been filed within two months of when the Final Office Action was issued, Applicants respectfully request that the Examiner issue an advisory action if the Examiner does not find the claims to be allowable in light of the amendments and remarks made herein. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone, facsimile, or electronic mail.

If the Commissioner deems that any fees are due, including any fees for extensions of time, the Commissioner is authorized to debit Baker Botts, L.L.P.'s Deposit Account No. 02-0383, Order Number 063718.0478, for any underpayment of fees that may be due in association with this filing.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Corey S. Tumey", is written over a horizontal line. The signature is stylized with loops and a large "C".

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